

SUPPORT FOR THE AMENDMENTS

The specification has been amended to recite a claim of priority to related International and Italian patent applications, as set forth in the originally filed Application Data Sheet.

The present amendment cancels claims 1-20, and adds new claims 21-44.

Support for newly added claims 21 and 22 is found at specification page 5, lines 6-25, page 6, lines 1-7, page 8, lines 2 and 7-19, as well as original claims 1, 2, 5 and 10.

Support for newly added claims 23-25 is found at specification page 6, lines 8-12, as well as original claims 3 and 4.

Support for newly added claims 26 and 27 is found at specification page 7, lines 19-25, page 8, line 1, as well as original claims 6-8.

Support for newly added claim 28 is found at specification page 8, lines 2-6.

Support for newly added claims 29-36 is found at specification page 9, lines 5-18, as well as original claims 9 and 11-16.

Support for newly added claims 37 and 38 is found at specification page 8, lines 7-19, as well as original claims 5 and 10.

Support for newly added claims 39 and 40 is found at specification page 9, lines 24 and 25, page 10, lines 1-3, as well as original claims 17 and 18.

Support for newly added claim 41 is found at specification page 10, lines 4-21.

Support for newly added claims 42 and 43 is found at specification page 10, lines 22-25, as well as original claims 19 and 20.

Support for newly added claim 44 is found at specification page 6, lines 6 and 7, page 11, line 1, as well as original claim 5.

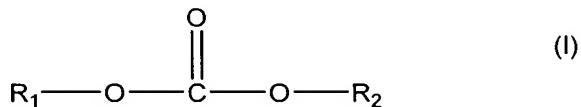
It is believed that these specification and claim amendments have not resulted in the introduction of new matter.

REMARKS

Claims 21-44 are currently pending in the present application. Claims 1-20 have been cancelled, and new claims 21-44 have been added, by the present amendment.

The rejections of now cancelled claims: (1) 1-4 under 35 U.S.C. § 102(b) as being anticipated over Masahide (JP 11-005865); (2) 1, 2, 5 and 10 under 35 U.S.C. § 102(b) as being anticipated over Shingo (JP 11-080418); (3) 8, 9 and 11-20 under 35 U.S.C. § 103(a) as being obvious over Peters (U.S. Patent 5,232,954); and (4) 1-20 under 35 U.S.C. § 103(a) as being obvious over the combined disclosures of Masahide, Shingo and Peters, is obviated by amendment with respect to new claims 21-44.

New claim 21 recites a process for recycling expanded polystyrene comprising: volume reduction of expanded polystyrene by dissolution in a solution comprising a dialkyl carbonate, or a blend of dialkyl carbonates, having the following general formula (I):



wherein R<sub>1</sub> and R<sub>2</sub> are the same or different and each independently represent a linear, a branched or a cyclic alkyl radical having from 1 to 12 carbon atoms, and the sum of the carbon atoms of R<sub>1</sub> and R<sub>2</sub> is from 2 to 15; removal of an insoluble component, if present; *selective precipitation of polystyrene with a non-solvent, wherein the non-solvent is an alkylene carbonate, or a blend of non-solvents consisting of an alcohol and an alkylene carbonate; separation of precipitated polystyrene; and drying of precipitated polystyrene.*

Unlike the claimed invention, Masahide describes a carbonate compound for dissolving polystyrene (See e.g., abstract).

Unlike the claimed invention, Shingo describes a process for recycling foamed polystyrene comprising precipitating polystyrene with a lower alcohol as the sole non-solvent (See e.g., abstract, [0011], claims 2 and 5).

Unlike the claimed invention, Peters describes a process for recovering polystyrene comprising precipitating polystyrene with an alcohol as the sole non-solvent (See e.g., column 4, lines 25-38).

Masahide, Shingo and Peters, when considered alone or in combination, fail to disclose or suggest the claimed process for recycling expanded polystyrene comprising selective precipitation of polystyrene with a non-solvent, wherein the non-solvent is an alkylene carbonate, or a blend of non-solvents consisting of an alcohol and an alkylene carbonate.

Assuming *arguendo* that sufficient motivation and guidance is considered to have been provided by Masahide, Shingo and/or Peters to arrive at the claimed process, which is clearly not the case, such a case of obviousness is rebutted by a showing of superior properties.

As shown in Table 1 below, which compiles into tabular form the experimental data presented in Example 22 and Comparative Example 20 of the present application, Applicants have discovered that the process of the present invention, which may involve selective precipitation of polystyrene with a blend of non-solvents consisting of an alcohol and an alkylene carbonate as shown in Example 22, unexpectedly exhibited superior properties with respect to surprisingly enhanced efficacy in the removal of impurities during the recycling of expanded polystyrene, as compared to the inferior properties exhibited by the conventional process of Comparative Example 20, as described in Shingo and Peters, which involves precipitation of polystyrene with an alcohol as the sole non-solvent.

| Example      | Non-Solvent(s)                    | Recycled Expanded Polystyrene |                            |
|--------------|-----------------------------------|-------------------------------|----------------------------|
|              |                                   | % Bromine Removed             | % Dicumyl Peroxide Removed |
| Ex. 22       | n-butanol and propylene carbonate | 94                            | 98                         |
| Comp. Ex. 20 | n-butanol                         | 61                            | 92                         |

This evidence clearly demonstrates that a process involving selective precipitation of polystyrene with a blend of non-solvents consisting of an alcohol and an alkylene carbonate in accordance with an exemplary aspect of the present invention, unexpectedly exhibited superior

properties with respect to surprisingly enhanced efficacy in the removal of impurities during the recycling of expanded polystyrene, as compared to the inferior properties exhibited by the conventional processes described in Shingo and Peters, which involve precipitation of polystyrene with an alcohol as the sole non-solvent.

Withdrawal of these grounds of rejection is respectfully requested.

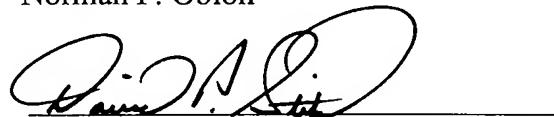
The rejections of claims 1-4 under 35 U.S.C. §§ 101 and 112, second paragraph, are obviated by amendment with respect to the cancellation of said claims. Withdrawal of these grounds of objection is respectfully requested.

The objection of claim 5 is obviated by amendment with respect to the cancellation of said claim. Withdrawal of this ground of objection is respectfully requested.

In conclusion, Applicants submit that the present application is now in condition for allowance and notification to this effect is earnestly solicited.

Respectfully submitted,

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